

# Work Order ID 139327

**\*139327\***

Page 1

Tuesday, November 24, 2015 10:46:11 AM

Item ID: D3916-5 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Light Rib  
Start Date: 11/24/2015 Start Qty: 12.00 **\*12\*** 13x **12**  
Required Date: 11/27/2015 Req'd Qty: 12.00 **\*12\*** Cust Item ID:  
Reference: Customer:

Approvals: Process Plan: **H** Date: **15-11-24** Tooling: Date: Run Start **\*NR1\***  
QC: Date: SPC (Y/N): Date: Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
| D3916    | A            |

100

0.00

**\*100\***

Large Fab

Large Fab

Memo

0.07

1- Cut tube 50"

2- Bend tube with manuel pipe bender as per DT9566

\*\*\* Make line at 9.00" annd use jig for other line\*\*\*

3- Trim access tube material to finish size as per dwg D3916

**13x**  
**12x** **CC** **15-11-24**

110

QC6- Inspect dimensions to drawing

0.00

**\*110\***

QC

Quality Control

Memo

0.00

**13x**

**DAS**  
**43**  
**2.89**

**NOV 24 2015**

120

Identify as per dwg & Stock Location: **W/A**  
**004**

0.00

**\*120\***

Packaging

Packaging

Memo

0.00

LOCATION: WA004

**13x**  
**12x** **CC** **15-11-24** **24**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                   |              |  |
|--------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------|--------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |                                                | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |                                                            | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div> |                                               |  |                                                                                                                   |              |  |
| Date :                                                       |                                                | Step #:                                                                                                                                                                            |                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  | <b>MRB (QSI042) Approval</b><br><br><div style="border: 1px solid black; height: 150px; margin-top: 10px;"></div> |              |  |
| Description Work Order Deviation                             |                                                |                                                                                                                                                                                    |                                                            | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                               |  |                                                                                                                   |              |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                   |              |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                   | Completed By |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            | Lead hand / Supervisor Approval Verification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                               |  |                                                                                                                   |              |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            | QC / QA Coordinator Approval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                               |  |                                                                                                                   |              |  |
| Root Cause                                                   |                                                | FAULT CATEGORY                                                                                                                                                                     |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                   |              |  |
| Environment <input type="checkbox"/>                         | No Re-verification <input type="checkbox"/>    | Pressure/Forced <input type="checkbox"/>                                                                                                                                           | Temperature/Cure <input type="checkbox"/>                  | Power Loss/Surge <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Positioned Wrong <input type="checkbox"/>     |  |                                                                                                                   |              |  |
| Design <input type="checkbox"/>                              | Operator <input type="checkbox"/>              | Bending <input type="checkbox"/>                                                                                                                                                   | Set-up <input type="checkbox"/>                            | Folio/Program <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Outside Dimensions <input type="checkbox"/>   |  |                                                                                                                   |              |  |
| Doc/Data <input type="checkbox"/>                            | Offset/Setup <input type="checkbox"/>          | Centre Not Concentric <input type="checkbox"/>                                                                                                                                     | BOM/Route <input type="checkbox"/>                         | Grain <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Over/Under tolerance <input type="checkbox"/> |  |                                                                                                                   |              |  |
| Equip/Tooling <input type="checkbox"/>                       | Supplier <input type="checkbox"/>              | Cracks <input type="checkbox"/>                                                                                                                                                    | Broken/Damage/Defect <input type="checkbox"/>              | Weld <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Part Incorrect <input type="checkbox"/>       |  |                                                                                                                   |              |  |
| Handling/Pre <input type="checkbox"/>                        | Training <input type="checkbox"/>              | Crimp/Kink/Ripple/Wave <input type="checkbox"/>                                                                                                                                    | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Part Lost/Missing <input type="checkbox"/>    |  |                                                                                                                   |              |  |
| Material <input type="checkbox"/>                            | Use for Testing <input type="checkbox"/>       | Cuffs <input type="checkbox"/>                                                                                                                                                     | Contamination <input type="checkbox"/>                     | Out of Sequence <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Part Moved <input type="checkbox"/>           |  |                                                                                                                   |              |  |
| Internal Transport <input type="checkbox"/>                  | Poor Information <input type="checkbox"/>      | Crushing <input type="checkbox"/>                                                                                                                                                  | Countersink <input type="checkbox"/>                       | Off-set <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Drawing <input type="checkbox"/>              |  |                                                                                                                   |              |  |
| Tribal Knowledge <input type="checkbox"/>                    | Rushing <input type="checkbox"/>               | Heat Treat <input type="checkbox"/>                                                                                                                                                | Cut Too Short <input type="checkbox"/>                     | Mislabeled <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Finish <input type="checkbox"/>               |  |                                                                                                                   |              |  |
| LOA <input type="checkbox"/>                                 | Product Improvement <input type="checkbox"/>   | Wave/Twist in Tube <input type="checkbox"/>                                                                                                                                        | Instructions Incomplete/Unclear <input type="checkbox"/>   | Fit/Function <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Misread <input type="checkbox"/>              |  |                                                                                                                   |              |  |
| Substation <input type="checkbox"/>                          | Process Improvement <input type="checkbox"/>   | Marks/Chatter <input type="checkbox"/>                                                                                                                                             | Drill Holes <input type="checkbox"/>                       | Misaligned/off center <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Turning Sequence <input type="checkbox"/>     |  |                                                                                                                   |              |  |
| Past Expiry Date <input type="checkbox"/>                    | Manufacturing Process <input type="checkbox"/> | OTHER : <input type="checkbox"/>                                                                                                                                                   |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                   |              |  |
| Misidentified <input type="checkbox"/>                       | Past Due <input type="checkbox"/>              |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                   |              |  |

**Work Order ID 139327**

Tuesday, November 24, 2015 10:46:11 AM

**\*139327\***

Page 2

Item ID: D3916-5 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Light Rib  
Start Date: 11/24/2015 Start Qty: 12.00 **\*12\*** Cust Item ID:  
Required Date: 11/27/2015 Req'd Qty: 12.00 **\*12\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                    | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 130                            | QC21- Final Inspection - Work Order Release | 0.00                 |         |        |              |               |               |                  |                |
| <b>*130*</b>                   |                                             |                      |         |        |              |               |               |                  |                |
| QC                             | Memo                                        | 0.02                 |         |        |              |               |               |                  |                |
| Quality Control                |                                             |                      |         |        |              |               |               |                  |                |

MCJ 15-11-25

MCJ 15-11-25

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                            |  |  |
|--------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |  |  |                                                                                                                                                            |  |  |
| Date :                                                       |  | Step #:                                                                                                                                                                            |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  | <b>MRB (QSI042) Approval</b><br><br>Completed By _____<br><br>Lead hand / Supervisor Approval Verification _____<br><br>QC / QA Coordinator Approval _____ |  |  |
| Description Work Order Deviation                             |  |                                                                                                                                                                                    |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |                                                                                                                                                            |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                            |  |  |

|                   |                          |        |                          |                       |                          |               |                          |              |                          |          |                          |                    |                          |                  |                          |     |                          |            |                          |                  |                          |               |                          |                    |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                  |                          |         |                          |                     |                          |                     |                          |                       |                          |          |                          |                 |                          |         |                          |                       |                          |        |                          |                        |                          |       |                          |          |                          |            |                          |                    |                          |               |                          |                  |                          |        |                          |           |                          |                      |                          |                                   |                          |               |                          |             |                          |               |                          |                                 |                          |             |                          |                  |                          |               |                          |       |                          |      |                          |                    |                          |                 |                          |         |                          |            |                          |              |                          |                       |                          |                  |                          |                    |                          |                      |                          |                |                          |                   |                          |            |                          |         |                          |        |                          |         |                          |                  |                          |
|-------------------|--------------------------|--------|--------------------------|-----------------------|--------------------------|---------------|--------------------------|--------------|--------------------------|----------|--------------------------|--------------------|--------------------------|------------------|--------------------------|-----|--------------------------|------------|--------------------------|------------------|--------------------------|---------------|--------------------------|--------------------|--------------------------|----------|--------------------------|--------------|--------------------------|----------|--------------------------|----------|--------------------------|-----------------|--------------------------|------------------|--------------------------|---------|--------------------------|---------------------|--------------------------|---------------------|--------------------------|-----------------------|--------------------------|----------|--------------------------|-----------------|--------------------------|---------|--------------------------|-----------------------|--------------------------|--------|--------------------------|------------------------|--------------------------|-------|--------------------------|----------|--------------------------|------------|--------------------------|--------------------|--------------------------|---------------|--------------------------|------------------|--------------------------|--------|--------------------------|-----------|--------------------------|----------------------|--------------------------|-----------------------------------|--------------------------|---------------|--------------------------|-------------|--------------------------|---------------|--------------------------|---------------------------------|--------------------------|-------------|--------------------------|------------------|--------------------------|---------------|--------------------------|-------|--------------------------|------|--------------------------|--------------------|--------------------------|-----------------|--------------------------|---------|--------------------------|------------|--------------------------|--------------|--------------------------|-----------------------|--------------------------|------------------|--------------------------|--------------------|--------------------------|----------------------|--------------------------|----------------|--------------------------|-------------------|--------------------------|------------|--------------------------|---------|--------------------------|--------|--------------------------|---------|--------------------------|------------------|--------------------------|
| <b>Root Cause</b> |                          |        |                          | <b>FAULT CATEGORY</b> |                          |               |                          |              |                          |          |                          |                    |                          |                  |                          |     |                          |            |                          |                  |                          |               |                          |                    |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                  |                          |         |                          |                     |                          |                     |                          |                       |                          |          |                          |                 |                          |         |                          |                       |                          |        |                          |                        |                          |       |                          |          |                          |            |                          |                    |                          |               |                          |                  |                          |        |                          |           |                          |                      |                          |                                   |                          |               |                          |             |                          |               |                          |                                 |                          |             |                          |                  |                          |               |                          |       |                          |      |                          |                    |                          |                 |                          |         |                          |            |                          |              |                          |                       |                          |                  |                          |                    |                          |                      |                          |                |                          |                   |                          |            |                          |         |                          |        |                          |         |                          |                  |                          |
| Environment       | <input type="checkbox"/> | Design | <input type="checkbox"/> | Doc/Data              | <input type="checkbox"/> | Equip/Tooling | <input type="checkbox"/> | Handling/Pre | <input type="checkbox"/> | Material | <input type="checkbox"/> | Internal Transport | <input type="checkbox"/> | Tribal Knowledge | <input type="checkbox"/> | LOA | <input type="checkbox"/> | Substation | <input type="checkbox"/> | Past Expiry Date | <input type="checkbox"/> | Misidentified | <input type="checkbox"/> | No Re-verification | <input type="checkbox"/> | Operator | <input type="checkbox"/> | Offset/Setup | <input type="checkbox"/> | Supplier | <input type="checkbox"/> | Training | <input type="checkbox"/> | Use for Testing | <input type="checkbox"/> | Poor Information | <input type="checkbox"/> | Rushing | <input type="checkbox"/> | Product Improvement | <input type="checkbox"/> | Process Improvement | <input type="checkbox"/> | Manufacturing Process | <input type="checkbox"/> | Past Due | <input type="checkbox"/> | Pressure/Forced | <input type="checkbox"/> | Bending | <input type="checkbox"/> | Centre Not Concentric | <input type="checkbox"/> | Cracks | <input type="checkbox"/> | Crimp/Kink/Ripple/Wave | <input type="checkbox"/> | Cuffs | <input type="checkbox"/> | Crushing | <input type="checkbox"/> | Heat Treat | <input type="checkbox"/> | Wave/Twist in Tube | <input type="checkbox"/> | Marks/Chatter | <input type="checkbox"/> | Temperature/Cure | <input type="checkbox"/> | Set-up | <input type="checkbox"/> | BOM/Route | <input type="checkbox"/> | Broken/Damage/Defect | <input type="checkbox"/> | Inspection Incomplete/Unqualified | <input type="checkbox"/> | Contamination | <input type="checkbox"/> | Countersink | <input type="checkbox"/> | Cut Too Short | <input type="checkbox"/> | Instructions Incomplete/Unclear | <input type="checkbox"/> | Drill Holes | <input type="checkbox"/> | Power Loss/Surge | <input type="checkbox"/> | Folio/Program | <input type="checkbox"/> | Grain | <input type="checkbox"/> | Weld | <input type="checkbox"/> | Wrong Stock Pulled | <input type="checkbox"/> | Out of Sequence | <input type="checkbox"/> | Off-set | <input type="checkbox"/> | Mislabeled | <input type="checkbox"/> | Fit/Function | <input type="checkbox"/> | Misaligned/off center | <input type="checkbox"/> | Positioned Wrong | <input type="checkbox"/> | Outside Dimensions | <input type="checkbox"/> | Over/Under tolerance | <input type="checkbox"/> | Part Incorrect | <input type="checkbox"/> | Part Lost/Missing | <input type="checkbox"/> | Part Moved | <input type="checkbox"/> | Drawing | <input type="checkbox"/> | Finish | <input type="checkbox"/> | Misread | <input type="checkbox"/> | Turning Sequence | <input type="checkbox"/> |
| OTHER : _____     |                          |        |                          |                       |                          |               |                          |              |                          |          |                          |                    |                          |                  |                          |     |                          |            |                          |                  |                          |               |                          |                    |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                  |                          |         |                          |                     |                          |                     |                          |                       |                          |          |                          |                 |                          |         |                          |                       |                          |        |                          |                        |                          |       |                          |          |                          |            |                          |                    |                          |               |                          |                  |                          |        |                          |           |                          |                      |                          |                                   |                          |               |                          |             |                          |               |                          |                                 |                          |             |                          |                  |                          |               |                          |       |                          |      |                          |                    |                          |                 |                          |         |                          |            |                          |              |                          |                       |                          |                  |                          |                    |                          |                      |                          |                |                          |                   |                          |            |                          |         |                          |        |                          |         |                          |                  |                          |

# Picklist Print

Tuesday, November 24, 2015 10:46:15 AM

Page 1

Work Order ID: 139327

**\*139327\***

Parent Item: D3916-5

**\*D3916-5\***

Parent Item Name: Light Rib

Start Date: 11/24/2015

Required Date: 11/27/2015

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP RevA: new issue DD 09.11.23 verified by:EC  
as per dwg revA 10.03.15 verified by:EC

IPP Rev:B

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| M304TS0.500W.049                |                        | Purchased     |             |                     | No               | 100             | f                  | 941.9302       | 4.166       | 52.62316     |               |                |        |

**\*M304TS0 500W 049\***

Square Tubing

**\*\***

*CC 15-11-24*

Location

WA004

Loc Qty

941.93021

308.93021

633

Loc Code

M132210

M133392

53

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

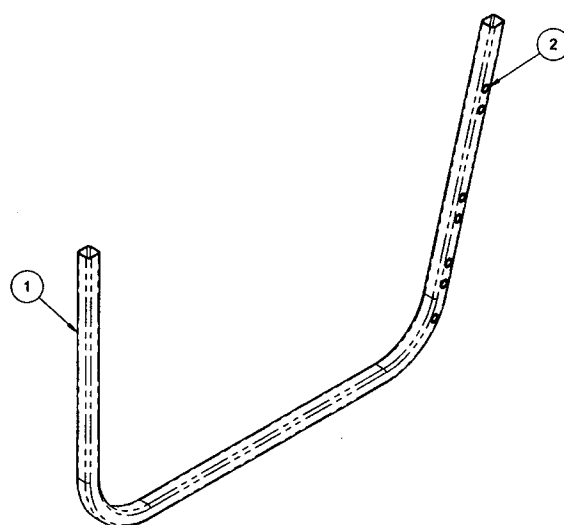
QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

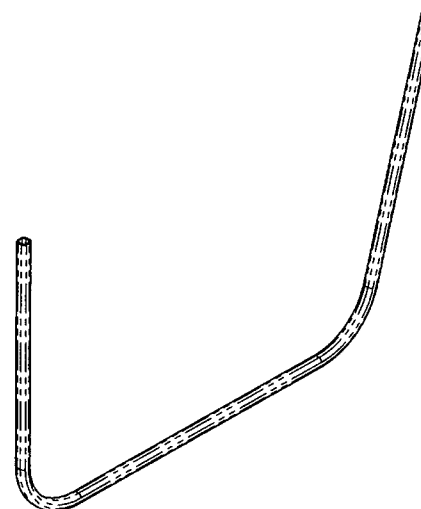
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                   |  |  |
|--------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------------------------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |  |  |                                                                                                                   |  |  |
| Date :                                                       |  | Step #:                                                                                                                                                                            |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  | <b>MRB (QSI042) Approval</b><br><br><div style="border: 1px solid black; height: 150px; margin-top: 10px;"></div> |  |  |
| Description Work Order Deviation                             |  |                                                                                                                                                                                    |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |                                                                                                                   |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                   |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                   |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  | Completed By                                                                                                      |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  | Lead hand / Supervisor<br>Approval Verification                                                                   |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  | QC / QA Coordinator<br>Approval                                                                                   |  |  |

| Root Cause         |                          |                       |                          | FAULT CATEGORY         |                          |                                   |                          |                       |                          |                      |                          |
|--------------------|--------------------------|-----------------------|--------------------------|------------------------|--------------------------|-----------------------------------|--------------------------|-----------------------|--------------------------|----------------------|--------------------------|
| Environment        | <input type="checkbox"/> | No Re-verification    | <input type="checkbox"/> | Pressure/Forced        | <input type="checkbox"/> | Temperature/Cure                  | <input type="checkbox"/> | Power Loss/Surge      | <input type="checkbox"/> | Positioned Wrong     | <input type="checkbox"/> |
| Design             | <input type="checkbox"/> | Operator              | <input type="checkbox"/> | Bending                | <input type="checkbox"/> | Set-up                            | <input type="checkbox"/> | Folio/Program         | <input type="checkbox"/> | Outside Dimensions   | <input type="checkbox"/> |
| Doc/Data           | <input type="checkbox"/> | Offset/Setup          | <input type="checkbox"/> | Centre Not Concentric  | <input type="checkbox"/> | BOM/Route                         | <input type="checkbox"/> | Grain                 | <input type="checkbox"/> | Over/Under tolerance | <input type="checkbox"/> |
| Equip/Tooling      | <input type="checkbox"/> | Supplier              | <input type="checkbox"/> | Cracks                 | <input type="checkbox"/> | Broken/Damage/Defect              | <input type="checkbox"/> | Weld                  | <input type="checkbox"/> | Part Incorrect       | <input type="checkbox"/> |
| Handling/Pre       | <input type="checkbox"/> | Training              | <input type="checkbox"/> | Crimp/Kink/Ripple/Wave | <input type="checkbox"/> | Inspection Incomplete/Unqualified | <input type="checkbox"/> | Wrong Stock Pulled    | <input type="checkbox"/> | Part Lost/Missing    | <input type="checkbox"/> |
| Material           | <input type="checkbox"/> | Use for Testing       | <input type="checkbox"/> | Cuffs                  | <input type="checkbox"/> | Contamination                     | <input type="checkbox"/> | Out of Sequence       | <input type="checkbox"/> | Part Moved           | <input type="checkbox"/> |
| Internal Transport | <input type="checkbox"/> | Poor Information      | <input type="checkbox"/> | Crushing               | <input type="checkbox"/> | Countersink                       | <input type="checkbox"/> | Off-set               | <input type="checkbox"/> | Drawing              | <input type="checkbox"/> |
| Tribal Knowledge   | <input type="checkbox"/> | Rushing               | <input type="checkbox"/> | Heat Treat             | <input type="checkbox"/> | Cut Too Short                     | <input type="checkbox"/> | Mislabeled            | <input type="checkbox"/> | Finish               | <input type="checkbox"/> |
| LOA                | <input type="checkbox"/> | Product Improvement   | <input type="checkbox"/> | Wave/Twist in Tube     | <input type="checkbox"/> | Instructions Incomplete/Unclear   | <input type="checkbox"/> | Fit/Function          | <input type="checkbox"/> | Misread              | <input type="checkbox"/> |
| Substation         | <input type="checkbox"/> | Process Improvement   | <input type="checkbox"/> | Marks/Chatter          | <input type="checkbox"/> | Drill Holes                       | <input type="checkbox"/> | Misaligned/off center | <input type="checkbox"/> | Turning Sequence     | <input type="checkbox"/> |
| Past Expiry Date   | <input type="checkbox"/> | Manufacturing Process | <input type="checkbox"/> | <b>OTHER :</b> _____   |                          |                                   |                          |                       |                          |                      |                          |
| Misidentified      | <input type="checkbox"/> | Past Due              | <input type="checkbox"/> |                        |                          |                                   |                          |                       |                          |                      |                          |

| ITEM | QTY | P/N       | DESCRIPTION |
|------|-----|-----------|-------------|
|      | X   | D3916-041 | RIB ASSY    |
| 1    | 1   | D3916-1   | RIB         |
| 2    | 7   | D3759-1   | BUSHING     |



**D3916-041 RIB ASSY**



**D3916-5 LIGHT RIB**

*Handwritten:* 1124  
139327

*Handwritten:* 10.12.21  
**UNDER REVIEW**  
*Handwritten:* ADDITION OF HOLE + BUSHING on D3916-041 RIBS.  
**RELEASED**  
*Handwritten:* 10.03.04  
*Handwritten:* JWP

|            |                    |                                                                                                                                                                                                                                                                                         |              |
|------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| A          | NEW ISSUE          | JPH                                                                                                                                                                                                                                                                                     | 10.03.04     |
| REV.       | DESCRIPTION        | BY                                                                                                                                                                                                                                                                                      | DATE         |
| DESIGN     | AJS                | <b>DART AEROSPACE LTD</b>                                                                                                                                                                                                                                                               |              |
| DRAWN      | JPH                | HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                                                             |              |
| CHECKED    | <i>[Signature]</i> | DRAWING NO.                                                                                                                                                                                                                                                                             | REV. A       |
| MFG. APPR. | <i>[Signature]</i> | D3916                                                                                                                                                                                                                                                                                   | SHEET 1 OF 4 |
| APPROVED   | <i>[Signature]</i> | TITLE                                                                                                                                                                                                                                                                                   | SCALE        |
| DE APPR.   | <i>[Signature]</i> | RIB ASSY, 350 BASKET                                                                                                                                                                                                                                                                    | NTS          |
| DATE       | 10.03.04           | <small>COPYRIGHT © 2010 BY DART AEROSPACE LTD<br/>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small> |              |

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

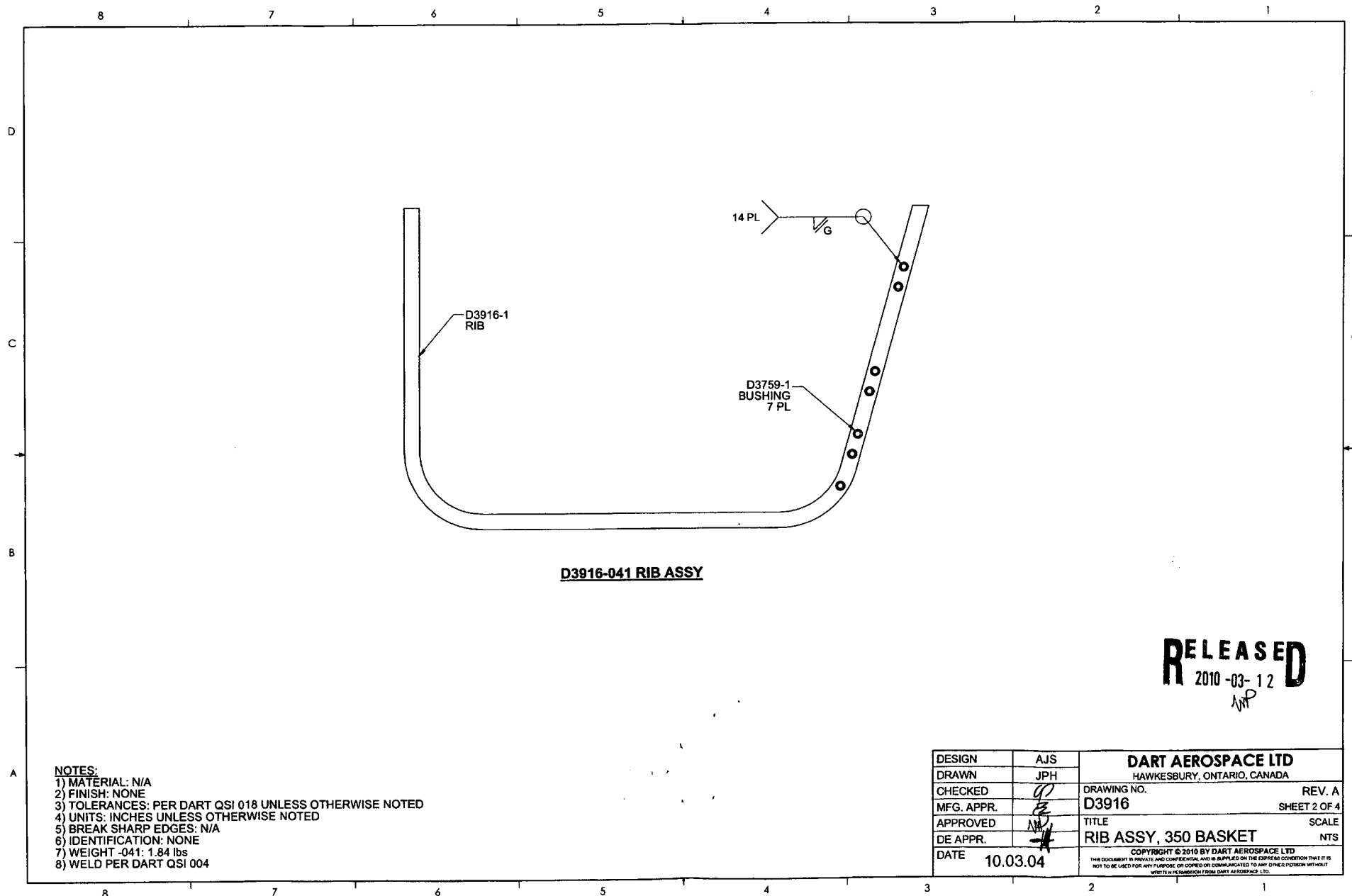
QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                     |  |  |
|--------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |  |  |                                                                                                                                                                                                                                                     |  |  |
| Date :                                                       |  | Step #:                                                                                                                                                                            |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  | MRB (QSI042) Approval<br><br><br><br><br><br><br><br><br><br><br>Completed By<br><br><br><br><br><br><br><br><br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br><br><br><br><br><br><br><br><br>QC / QA Coordinator<br>Approval |  |  |
| Description Work Order Deviation                             |  |                                                                                                                                                                                    |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |                                                                                                                                                                                                                                                     |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                     |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                                                                                                                     |  |  |

| Root Cause         |                          |                       |                          | FAULT CATEGORY         |                          |                                   |                          |
|--------------------|--------------------------|-----------------------|--------------------------|------------------------|--------------------------|-----------------------------------|--------------------------|
| Environment        | <input type="checkbox"/> | No Re-verification    | <input type="checkbox"/> | Pressure/Forced        | <input type="checkbox"/> | Temperature/Cure                  | <input type="checkbox"/> |
| Design             | <input type="checkbox"/> | Operator              | <input type="checkbox"/> | Bending                | <input type="checkbox"/> | Set-up                            | <input type="checkbox"/> |
| Doc/Data           | <input type="checkbox"/> | Offset/Setup          | <input type="checkbox"/> | Centre Not Concentric  | <input type="checkbox"/> | BOM/Route                         | <input type="checkbox"/> |
| Equip/Tooling      | <input type="checkbox"/> | Supplier              | <input type="checkbox"/> | Cracks                 | <input type="checkbox"/> | Broken/Damage/Defect              | <input type="checkbox"/> |
| Handling/Pre       | <input type="checkbox"/> | Training              | <input type="checkbox"/> | Crimp/Kink/Ripple/Wave | <input type="checkbox"/> | Inspection Incomplete/Unqualified | <input type="checkbox"/> |
| Material           | <input type="checkbox"/> | Use for Testing       | <input type="checkbox"/> | Cuffs                  | <input type="checkbox"/> | Contamination                     | <input type="checkbox"/> |
| Internal Transport | <input type="checkbox"/> | Poor Information      | <input type="checkbox"/> | Crushing               | <input type="checkbox"/> | Countersink                       | <input type="checkbox"/> |
| Tribal Knowledge   | <input type="checkbox"/> | Rushing               | <input type="checkbox"/> | Heat Treat             | <input type="checkbox"/> | Cut Too Short                     | <input type="checkbox"/> |
| LOA                | <input type="checkbox"/> | Product Improvement   | <input type="checkbox"/> | Wave/Twist in Tube     | <input type="checkbox"/> | Instructions Incomplete/Unclear   | <input type="checkbox"/> |
| Substation         | <input type="checkbox"/> | Process Improvement   | <input type="checkbox"/> | Marks/Chatter          | <input type="checkbox"/> | Drill Holes                       | <input type="checkbox"/> |
| Past Expiry Date   | <input type="checkbox"/> | Manufacturing Process | <input type="checkbox"/> | OTHER :                |                          |                                   |                          |
| Misidentified      | <input type="checkbox"/> | Past Due              | <input type="checkbox"/> |                        |                          |                                   |                          |





**D3916-041 RIB ASSY**

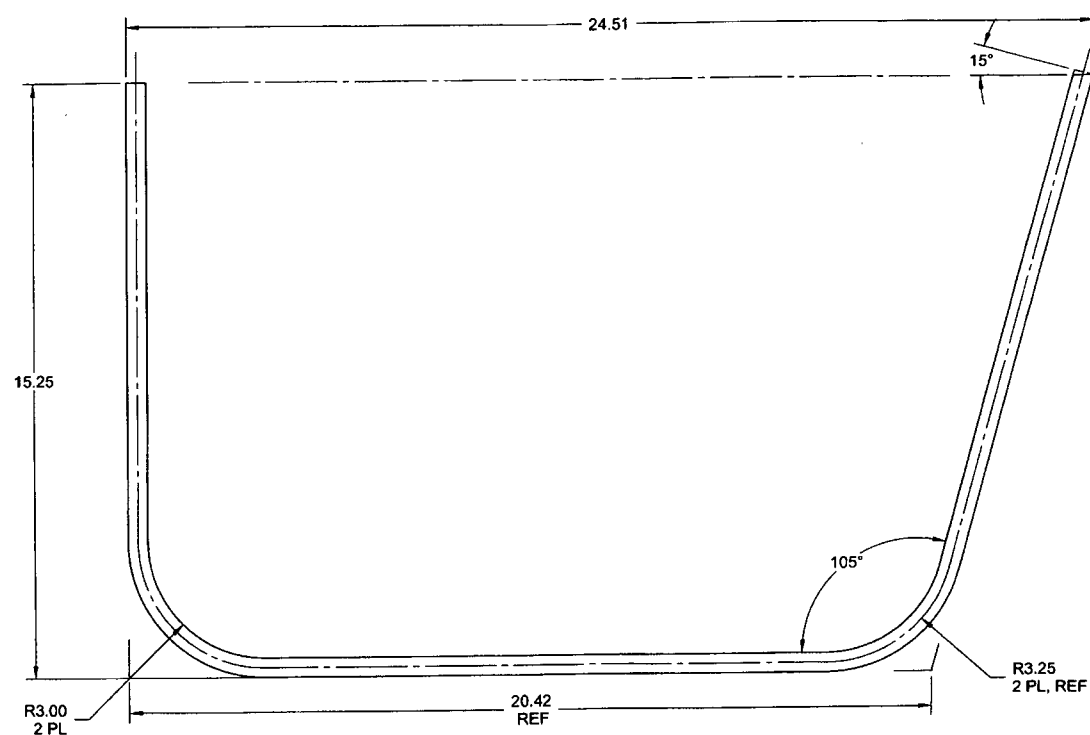
**RELEASED**  
2010-03-12  
AMP

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT -041: 1.84 lbs
- 8) WELD PER DART QSI 004

|            |                    |                                                                                                                                                                                                                                                                                                  |              |
|------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DESIGN     | AJS                | <b>DART AEROSPACE LTD</b>                                                                                                                                                                                                                                                                        |              |
| DRAWN      | JPH                | HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                                                                      |              |
| CHECKED    | <i>[Signature]</i> | DRAWING NO.                                                                                                                                                                                                                                                                                      | REV. A       |
| MFG. APPR. | <i>[Signature]</i> | <b>D3916</b>                                                                                                                                                                                                                                                                                     | SHEET 2 OF 4 |
| APPROVED   | <i>[Signature]</i> | TITLE                                                                                                                                                                                                                                                                                            | SCALE        |
| DE APPR.   | <i>[Signature]</i> | <b>RIB ASSY, 350 BASKET</b>                                                                                                                                                                                                                                                                      | NTS          |
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9 D3916-5 LIGHT RIB

RELEASED  
2010-03-12

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.50 X 0.50 X 0.049 WALL  
REF DART SPEC. M304TS0.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.07 lbs
- 9) TUBE FLAT LENGTH 49.5 REF

|                                                                                                                                                                                                                                       |                    |                                        |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------|--------------|
| DESIGN                                                                                                                                                                                                                                | AJS                | DART AEROSPACE LTD                     |              |
| DRAWN                                                                                                                                                                                                                                 | JPH                | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED                                                                                                                                                                                                                               | <i>[Signature]</i> | DRAWING NO.                            | REV. A       |
| MFG. APPR.                                                                                                                                                                                                                            | <i>[Signature]</i> | D3916                                  | SHEET 4 OF 4 |
| APPROVED                                                                                                                                                                                                                              | <i>[Signature]</i> | TITLE                                  | SCALE        |
| DE APPR.                                                                                                                                                                                                                              | <i>[Signature]</i> | RIB ASSY, 350 BASKET                   | NTS          |
| DATE                                                                                                                                                                                                                                  | 10.03.04           | COPYRIGHT © 2010 BY DART AEROSPACE LTD |              |
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